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This index covers all technical items - papers, correspondence, reviews, etc. - that appeared in this periodical during 1997, and items from previous years that were commented upon or corrected in 1997.

The Author Index contains the primary entry for each item, listed under the first author's name, and cross-references from all coauthors. The Subject Index contains several entries for each item under appropriate subject headings, and subject cross-references.

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Filtering; cf. Kalman filtering; Wiener filtering

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Filter noise; cf. Digital filter wordlength effects

Filters; cf. Adaptive filters; Bandpass filters; Comb filters; Continuous time filters; Digital filters; Discrete time filters; Equalizers; Equiripple filters; High-pass filters; Lattice filters; Linear phase filters; Low-pass filters; Matched filters; Nonlinear filters; Notch filters; Spatial filters; Time-varying filters; Transversal filters

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optimal filtering in fractional Fourier domains. *Kutay, A., + , T-SP May 97* 1129-1143
Wiener-Hopf theory
symmetric alpha-stable filter theory. *Bodenschatz, J.S., + , T-SP Sep 97* 2301-2306
Wigner distributions
discrete Wigner-Ville distrib., fixed-point error anal. *Prablu, K.M.M., + , T-SP Oct 97* 2579-2582
pseudo quantum sig. representation, highly conc. time-freq. distribs. *Stankovic, L., T-SP Mar 97* 543-551
sig. detect. in nonstationary environ., modular learning strategy. *Haykin, S., + , T-SP Jun 97* 1619-1637

X

X-ray tomography
Cramer-Rao bound computation, recursive algms. *Hero, A.O., + , T-SP Mar 97* 803-807